

## WHAT IS CLAIMED IS:

1. Disk array controller comprising:

a host switch interface section that is connected to a host computer;

5 a plurality of respective disk array controlling units that are provided with a channel interface section interfacing with said host switch interface section, a disc interface section that is connected to a magnetic disc unit and a cache memory section that temporarily stores data as read out of or written into said magnetic disc unit; and

a mutual connection network in connection with the channel interface sections, the disc interface sections and the cache memory sections of said disk array controlling units,

15 wherein said cache memory sections perform a transfer of the data with the channel interface sections of said respective disk array controlling units.

2. Disk array controller according to claim 1 wherein said host switch interface section is provided with a management table that selects a path of the data transfer according to an 20 address as requested by the host computer.

3. Disk array controller according to claim 2 wherein said data transfer path is a path between said host switch interface section and the channel interface sections of said respective disk array controlling units.

25 4. Disk array controller according to claim 2 wherein

5 said management table is provided with a path selection table with candidates for the data transfer paths in response to said address and a history information table in which the respective data transfer paths are weighted according to a data volume thereof, wherein the specific path is selected on the basis of information of said history information table among the paths as selected by said path selection table.

10 5. Disk array controller according to claim 1 wherein one part of the respective disk array controlling units are provided with higher-speed cache memory sections than those of the other part thereof.

15 6. Disk array controller according to claim 2 wherein said respective disk array controlling units are provided with a resource management section that manages an operating ratio of the resources thereof and reports said operating ratio through an operating ratio report signal to said host switch interface section, wherein said management table is provided with a path selection table with candidates for the data transfer paths in response to said address and a history information table in which the respective data transfer paths are weighted based on said operating ratio report signal, wherein the specific path is selected based on information of said history table among the paths as selected by said path selection table.

20 7. Disk array controller comprising:

25 a host switch interface section that is connected to a

host computer;

a plurality of respective disk array controlling units that are provided with a channel interface section interfacing with said host switch interface section, a disc interface section that is connected to a magnetic disc unit and a cache memory section that temporarily stores data as read out of or written into said magnetic disc unit;

5 a first connection network in connection with the channel interface sections, the disc interface sections and the cache memory sections of said respective disk array controlling units; and

10 a second mutual connection network in connection with said host interface section and the channel interface sections of said respective disk array controlling units,

15 wherein said cache memory sections perform a transfer of the data with the channel interface sections of said respective disk array controlling units.

8. Disk array controller according to claim 7 wherein said host switch interface section is provided with a management table to select a path of the data transfer according to an address as requested by the host computer.

20 9. Disk array controller according to claim 8 wherein said data transfer path is a path between said second mutual connection network and the channel interface sections of said 25 respective disk array controlling units.

10. Disk array controller according to claim 8 wherein  
said management table is provided with a path selection table  
with candidates for the data transfer paths in response to said  
address and a history information table in which the respective  
5 data transfer paths are weighted according to a data volume  
thereof, wherein the specific path is selected according to  
information of said history table among the paths as selected  
by said path selection table.

11. Disk array controller according to claim 7 wherein  
one part of the disk array controlling units are provided with  
higher-speed cache memory sections than those of the other part  
thereof.

12. Disk array controller according to claim 8 wherein  
the respective disk array controlling units are provided with  
15 a resource management section that manages an operating ratio  
of the resources thereof and reports said operating ratio through  
an operating ratio report signal to said host switch interface  
section, wherein said management table is provided with a path  
selection table with candidates for the data transfer paths in  
20 response to said address and a history information table in which  
the respective data transfer paths are weighted according to  
said operating ratio report signal, wherein the specific path  
is selected according to information of said history table among  
the paths as selected by said path selection table.